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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,552	07/29/2003	Hirokazu Nunokawa	Q76699	4741
23373	7590	08/25/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			KUMAR, RAKESH	
			ART UNIT	PAPER NUMBER
			3654	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/628,552	NUNOKAWA, HIROKAZU
	Examiner	Art Unit
	Rakesh Kumar	3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 12 is/are allowed.
- 6) Claim(s) 1,3,5-9,13 and 14 is/are rejected.
- 7) Claim(s) 2, 4, 10 and 11 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 04 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  
2. Claim 13 provides for the use of a computer-readable medium, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 13 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under

35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1, 5, 6 and 14 rejected under 35 U.S.C. 102(b) as being anticipated by Ahne et al. (U.S. Patent No. 6,406,110).

5. Referring to Claim 1 and 14. Ahne et al. discloses a mechanism to automate the adjustment of the gap spacing between the print head and the media. The method explains receiving an initial input associated with the print medium through input sensors 132, 134 and 136 (Fig. 7 and 8, Col 7 lines 17-25), comparing the initial input signal to a signal obtained from secondary sensor and making the appropriate control adjustments as the document S is being fed and carried through the print apparatus on a bending path 36 (Fig. 1). Once the adjustments are made based on the media properties and the predetermined control values, the document S is continued to be carried through the print head assembly and the information from the print head is recorded on medium (Col 6 line 62, Col 7 line 52).

6. Referring to Claim 5 and 6. Ahne et al. discloses the print media sensor 134 provides a signal or a command to the printer controller 30, which represents a characteristic of the print medium itself that can be correlated to a property of the media such as the thickness or another characteristic of the media. Based on the command the gap of the printer head and the media can be adjusted as the media is carried through the apparatus.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7, 8 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al.

8. Referring to Claim 7, 8 and 9. Ahne et al. discloses a method where the print media sensor 134 provides a signal or a command to the printer controller 30, which represents a characteristic of the print medium itself that can be correlated to a specific property of the media such as the thickness or another characteristic of the media. Based on the command, the gap of the printer head and the media can be adjusted as the media is carried through the apparatus. Ahne et al. also teaches that various other

sensors can be used to determine other properties of the media such as the paper size by either manually inputting the information by the user or determining through the detection process of the sensors (Col. 6 lines 62-67, Col. 7 lines 1-20).

Ahne et al. does not specifically state that an attribute of the media is a length, width or the type of material the media comprises.

It would be obvious to one of ordinary skill in the art to modify the teaching of Ahne et al. to consider that determining the paper size by sensors would encompass sensors being used to determine the individual width and length of the document. Sensor could also used to determine the physical attributes of the media such as the reflectivity, density and material type. As a result, the detection process can be automated by the detecting the media size and the media properties so that the printing mechanism can be specifically adapted to using multiple type of media sizes, weights and gloss and result in superior final print quality.

9. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al. in view of Yokoi et al. (U.S. Patent No. 5,982,400).

10. Referring to Claim 3. Ahne et al. discloses a method to compare input signals obtained at different locations as the document S proceeds through the bending path 36 and thus making the appropriate printer gap adjustments to maintain a constant media to print head relationship as the document S is carried through to the print head assembly.

Ahne et al. does not disclose a method in specific to detect and change the input signal at the rear of the document S.

Yokoi et al. discloses a sheet feeding apparatus and an image forming system where the sensors 11, 12 are disposed on the feeding path to detect a front end and the rear end of the recording sheet. Initially, these sensors are disengaged and are actuated when the front and the rear ends are detected of the medium. The initial stage of the sensor provides an initial signal and the detection itself provides a second detected signal, thus indicating a change in the command value that is sent to the controller (Col 8 line 38, Col 10 line 60, Figure 12,19,20) while carrying the document through the print head assembly.

It would be obvious to one of ordinary skill in the art at the time of the invention was made to configure the sensors as disclosed by Yokoi et al. to be able to detect the front and the rear ends of the medium as it proceeds through the media path and thus change the printer head gap distance as the signal are received by the controllers. As a result be able to more precise control the printer head gap distance at the front and the rear ends of the documents.

#### ***Allowable Subject Matter***

11. Claims 12 is allowed.

Claim 2, 4, 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and the intervening claims.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (571) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.  
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.
14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RK

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